

Exploratory Study



"Leonor Cuadras" Oyster Aquaculture Cooperative

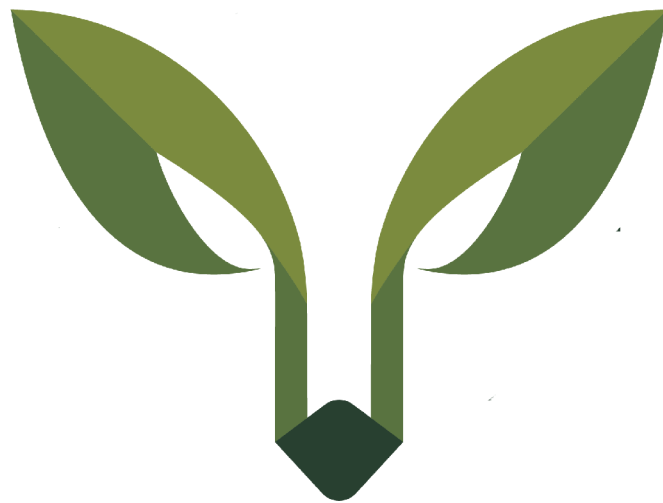
First Semester of Operation
La Reforma (Angostura), Sinaloa, Mexico

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Executive Summary

1. Study Context

This exploratory study analyzes the oyster cooperative "Leonor Cuadras" in La Reforma, Angostura, Sinaloa, Mexico. Founded in May 2023 by four women and sponsored by the seafood company Marine Edén SA de CV, this cooperative aims to be an alternative livelihood model led by women, promoting environmental sustainability and gender equity. The NGO SUCEDE supports this project, which focuses on the individual, social, and environmental healing of La Reforma, a fishing community facing significant socioeconomic challenges. This study provides a detailed view of the first months of operation of the "Leonor Cuadras" cooperative, offering practical recommendations for its consolidation and expansion, as well as its reproduction as a sustainable development model with other members of the community and the Sea of Cortez region.

2. Data Collection and Analysis Method

Exploratory, structured interviews were conducted with eight members of the cooperative. The interviews took place on Espíritu Islet, and the data were analyzed in MAXQDA using a template analysis approach, combining inductive and deductive methods.

3. Main Findings

Cooperative Identity and Commitment: Members see the cooperative as a tool for personal and family advancement, with a focus on women's advancement, group solidarity, and environmental improvement.

Learning and Technical Skills: Members have acquired basic knowledge in oyster farming management, from seeding to equipment maintenance.

Needs and Challenges: Issues identified include problems with acquiring equipment, land permits, community perception, environmental risks, and the need to improve internal communication.

Future Perspectives: Members aim to consolidate current operations and acquire more equipment in the short term, while diversifying into other aquaculture and tourism activities in the long term.

4. Key Recommendations

- **Ensure the proper delivery of seeds:** Provide seeds in quantities adequate for the cooperative's capacity.
- **Adjust material supply and handling capacity:** Replace plastic cylinders with bags and racks.
- **Establish work plans for periods of inactivity:** Include alternative production, training, and intensive maintenance.
- **Conduct a Baseline Study:** Measure medium and long-term impact, establishing clear indicators.
- **Define a clear trajectory for cooperative and personal-family goals:** A detailed operational plan for transitioning towards independence.
- **Training in boat handling for women:** Programs to promote autonomy in maritime operations.
- **Implement a visibility campaign:** Improve public perception of the project and foster understanding of its benefits.
- **Create mechanisms for experience sharing:** Encourage collaboration and continuous improvement among cooperatives.
- **Rigorous selection process for founding partners:** Evaluate mutual trust and commitment to shared responsibility for new cooperatives.
- **Shared mechanism facilitated by Marine Edén:** Establish relationships with seed suppliers and buyers.

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I. Sociocultural Context of La Reforma

La Reforma is a fishing community and administrative district located in the municipality of Angostura, facing the Santa María Bay on the coast of the Sea of Cortez, State of Sinaloa, Mexico. With an approximate population of 6,600 inhabitants, La Reforma has developed primarily around fishing and aquaculture, which have been central economic activities since its founding in the early 20th century. The installation of a canning plant and population growth due to migration increased the economic prosperity of the community during its early decades.

However, in the 1970s, the closure of the Productos Pesqueros Mexicanos plant significantly altered the residents' way of life, resulting in the loss of hundreds of jobs and negatively impacting the local economy. This decline was further aggravated by the implementation of the North American Free Trade Agreement (NAFTA) in 1994, which transformed the economic dynamics and exacerbated issues such as violence and drug trafficking in the region, leaving La Reforma facing significant social and economic challenges to this day.¹

In a “Sociocultural Diagnosis” conducted by researchers from the Autonomous University of Sinaloa in 2017, various socioeconomic and environmental challenges were identified that affect La Reforma. The district is characterized by issues of marginalization, resource overexploitation, environmental pollution (including of the bay’s waters due to littering and agricultural waste), and a range of social problems such as unemployment, drug addiction, and structural violence. These challenges highlight the urgent need to implement intervention strategies that not only address immediate needs but also promote sustainable development that respects the environment and local culture. The fishing sector, which represents almost the entire economic activity of the community, has traditionally relied on the management of several cooperatives that organize this large sector of the population.²

The cooperatives in La Reforma, Sinaloa, face multiple challenges, ranging from the extreme simplification of their administrative structures to a marked centralization of power, which has reduced internal transparency and democratic participation. Historically efficient in paying fishermen, they now accumulate products while waiting for better prices, causing economic instability due to delays in payments. Additionally, resources such as subsidies and government programs are mismanaged and frequently monopolized by leaders, eroding equity and fostering corruption. The reduced representation of fishermen in economic and management decisions, combined with the lack of leadership turnover and the inefficiency in

¹ García Rodríguez, O. B., Cortés Aguilar, S., Félix Puga, A. R., Mendoza Ontiveros, L. R., Armenta Rodríguez, A. U., & Obeso Santo, J. E. (2017). *Diagnóstico sociocultural Sindicatura La Reforma, Municipio de Angostura, Sinaloa*.

² Ibid.

enforcing legal regulations, has stifled innovation and adaptability. This has left unaffiliated fishermen in a vulnerable position, with no access to essential resources or labor protections.³

II. Background of the Study

In the challenging sociocultural context of La Reforma, the "Leonor Cuadras" cooperative, led by four female associates and supported informally by four male members, is sponsored by the oyster aquaculture and seafood production company Marine Edén SA de CV. This cooperative serves as a model for sustainable alternative livelihoods while also contributing to environmental conservation through water filtration and active participation in waste collection and habitat preservation. Namely, oysters naturally filter water by consuming plankton, algae, and suspended particles, which helps reduce excess nutrients and pollutants — such as those caused by agricultural waste — thereby supporting a healthier marine ecosystem.⁴

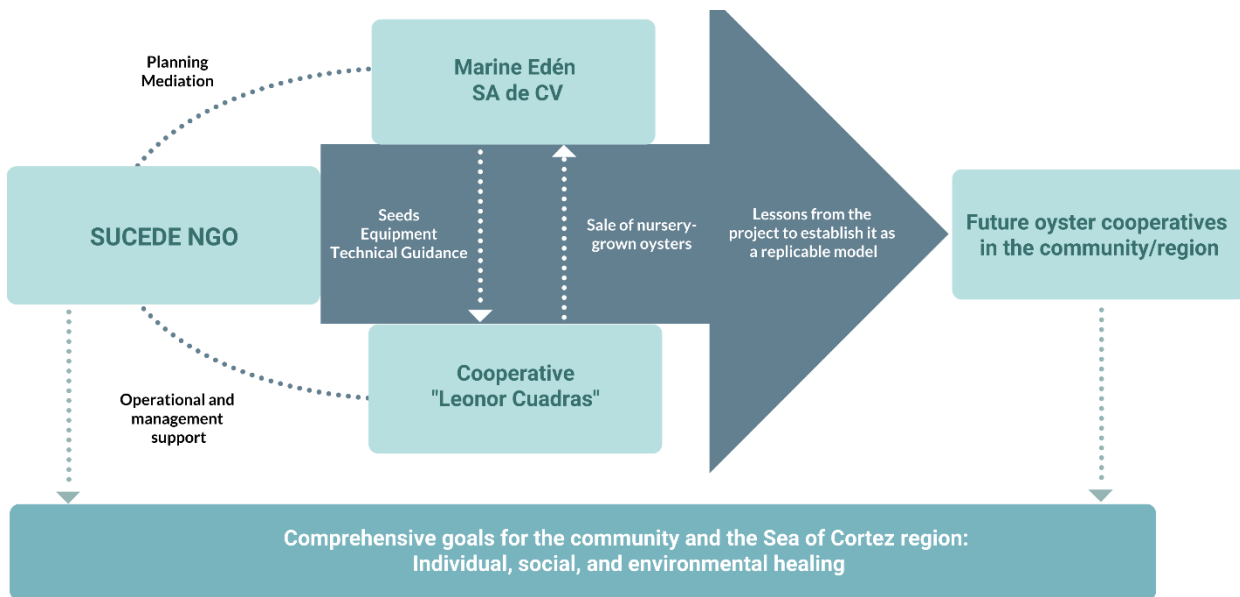


Image 1: institutional configuration and integral objectives of the project.

Operating as an oyster “nursery,” the cooperative cultivates oyster seeds supplied by Marine Edén, taking advantage of the more favorable water temperatures in Santa María Bay compared to those at the company’s main facilities. Once the oysters reach a certain size, they are sold back to Marine Edén, which continues their growth to a commercial size of at least 8 cm. The cooperative was established in May 2023, initially with ten members, and is named after the first female fisher from La Reforma, a relative of one of the associates. The

³ *Ibíd.*

⁴ Kellogg, M. L., Smyth, A. R., Luckenbach, M. W., Carmichael, R. H., Brown, B. L., Cornwell, J. C., Piehler, M. F., Owens, M. S., Dalrymple, D. J., & Higgins, C. B. (2014). Use of oysters to mitigate eutrophication in coastal waters. *Estuarine, Coastal and Shelf Science*, 151, 156-168.

initiative originated as a response to the limited economic opportunities available to local women during the off-season for shrimp fishing.

This project is part of the broader efforts of the NGO “SUCEDE – Sociedad en Acción de Sinaloa” to promote individual, social, and environmental well-being in La Reforma and other communities in Angostura. The success of this initiative could serve as a model for similar projects in the region, showcasing the value of female leadership and community-driven approaches to local economic development and natural resource management.

The present study, through the sections **"Cooperative Identity, Values, and Member Commitment"**; **"Operational Learning and Technical Skills"**; **"Needs, Challenges, and Risk Management"**; and **"Future Perspectives,"** offers a cross-sectional exploration of a grassroots oyster cooperative in its early stages. The conclusions and recommendations derived from this analysis are expected not only to provide valuable insights for the consolidation and expansion of "Leonor Cuadras" but also to be applicable to future iterations of similar cooperatives in the region. This will reinforce the community-centered sustainable development model, focused on gender equity, led by SUCEDE.

During the planning of this study in November 2023, the organizational leadership of Marine Edén identified the areas of exploratory analysis on which this document is based to **understand the project's initial development, implement methods to guide its evolution, and design criteria and metrics for its future evaluation.** Among these areas are concerns about productivity, functionality, and power dynamics within the cooperative, as well as the long-term expectations and challenges of its members. The importance of differentiating between "economic growth" and sustainable "economic development" was emphasized. Additionally, the need for structural change towards a more self-sufficient and equitable organization was highlighted, and concerns were raised about the sustainability of the cooperative model compared to other organizational models.

Concerns were also raised about the inclusion of men in a cooperative originally formed by women, and the reliability of the members' commitment to continue selling oysters to Marine Edén in the face of higher offers from other buyers was questioned. These concerns are contextualized by the problematic background of cooperatives in La Reforma and previous negative experiences with similar projects in Sinaloa, Sonora, and Baja California.

These areas of interest for analysis, in addition to exploring the commitment of cooperative members to their sponsors, reflect a desire to contextualize the cooperative in its early stages against the broader commitment of Marine Edén's leadership to its core principles of **sustainability, quality, community engagement, innovation, and environmental responsibility.** Marine Edén promotes aquaculture practices that protect and restore the

environment, strives to offer the highest quality products, actively supports the local community, continually seeks to improve its farming and breeding techniques, and is dedicated to the restoration and conservation of Mexico's coastal lagoons.⁵

III. Methodology

Data and Analysis

Based on the information provided by Marine Edén, an exploratory questionnaire was designed, divided into two main segments to illuminate the internal dynamics discussed. The first part, titled "Purpose, Management, and Needs," focused on understanding the fundamental objectives of the cooperative, the effectiveness of its management, and the operational and developmental needs that must be addressed to ensure its viability. The second part, "Growth and Commitment," was designed to analyze the sustainability and growth potential of the cooperative, as well as the level of commitment of its members toward collective goals. This questionnaire not only aligns with the planned research areas but is also designed to inductively capture the complexity and dynamics of both individual and collective performances and objectives within the cooperative. It thus ensures a thorough exploration of key areas of interest and identified concerns.

The methodology of this exploratory study is grounded in the "Pionero Assessment" previously carried out by the Corioli Institute, which systematized an educational program for youth in detention in El Salvador, identifying strengths and areas for improvement to guide future development.⁶

The methodology includes a set of 8 structured interviews with 13 questions, conducted with members involved in the cooperative (referred to as such throughout the report, without distinction), consisting of 4 women (the official associates) and 4 men supporting the project (3 husbands and a young acquaintance). These interviews, which totaled approximately 3.5 hours of recorded material, were conducted on Espíritu Islet, where the cooperative operates, on 10.12.2023. The collected information was systematically analyzed in MAXQDA using "Template Analysis," which combines both inductive and deductive approaches. Initially, a coding framework was developed based on predefined themes that emerged from the study's planning. As the interviews were analyzed, new emerging themes were identified, allowing for the iterative modification and expansion of the coding framework.⁷

⁵ Santa Maria Seafood Farm. (s.f.). Santa Maria Seafood Farm. Recuperado el 31 de mayo de 2024, de <https://www.santamariaseafoodfarm.com/>

⁶ McFee, E. K., & Marisol, M. (2021). Evaluación del Programa Pionero 2021: Contexto, Implementación y Recomendaciones. London School of Economics Latin America and Caribbean Centre.

⁷ King, N. (1999). Template analysis. In G. Symon & C. Cassell (Eds.), *Qualitative methods and analysis in organizational research: A practical guide* (pp. 118-134). Sage Publications.

This flexible approach facilitated a deep and nuanced understanding of the internal dynamics of the cooperative in its initial phases, while maintaining the report's direction based on the prior information.

The following analysis reveals both the progress and persistent challenges in daily operations as well as structural aspects and external factors, visions, and innovations driven by the members. It shows how they have learned and adapted to this new economic activity during the cooperative's first months. Special emphasis is placed on the interpretation of fundamental values such as independence, trust, commitment, and shared responsibility, and on how members perceive their cooperative identity and the role of their work for themselves and their environment. This was incorporated as the sponsors expressed concerns about whether there is an awareness or mindset conducive to the project.

This report outlines the progress made and highlights areas of opportunity to refine and expand the organizational objectives, as well as how the cooperative is integrated into the broader community context. Based on what was learned from this cross-sectional exploration, ten recommendations are presented in this report aimed at fostering the cooperative's development. This study and its recommendations also guide the potential launch of more community cooperatives, thus positively contributing to the economic and environmental well-being of communities in the Sea of Cortez region.

Limitations of the Study

Although participant anonymity was ensured during data collection, to the extent allowed by the study's size, it is important to note that the context in which these responses are collected may influence them. Specifically, there is a potential bias, as participants may tend to offer responses that reflect positively on the project's progress, particularly under the expectation that the leadership of their organization will review this report. Therefore, the responses may be skewed toward a more favorable view of the cooperative's functioning and outcomes, and more positive toward the sponsors. Additionally, participants may have responded more performatively in the presence of the researcher, who is a foreigner, which could have similarly affected the tone of their responses. However, the interview style, which included asking follow-up questions from different angles, allowed for more authentic and revealing answers about the interviewees' perspectives.

Furthermore, data based on a single day of interviews cannot fully capture the breadth of the cooperative members' experiences, limiting the level of detail obtained. For the same reason, the study lacks a long-term ethnographic-observational component, which restricts the exhaustiveness and potentially the accuracy of the information captured and represented. Nonetheless, the questionnaire and analysis method used successfully extracted a

considerable amount of valuable information in a very short period, which helps to understand and contextualize this cooperative project during its initial phase.

It should be noted that the focus and methodology of this report do not make it a comprehensive impact evaluation of the project in its early stages. Instead, it is an exploration of the project's operational and social dynamics from the participants' perspective after its first semester. This exploration can help design metrics for a more methodologically sophisticated impact evaluation in the future.

IV. Cooperative Identity, Values, and Member Commitment

The Meaning of Being a Cooperative Member

The first question of the questionnaire sought to establish a foundation for understanding the identity associated with working in this initiative. When asked what "being a cooperative member" means to each participant, the responses revealed that, for the interviewees, it transcends mere membership in an economic entity; it represents a commitment to camaraderie and collective effort in developing a project. It is perceived as a union of partners and friends, where there is a strong sense of fellowship and mutual support as "leaders." It is a source of pride, especially for the women, who see the economic activity related to the sea not only as a means of livelihood but also as an affirmation of equality and capability:

“...because today we have proven that we can do things that are on par with men, that we can support our families just like men do in fishing. And that we are given the opportunity for there to be a cooperative, for cooperatives to exist, and for women to be member.” (**Female member**)

For some members, being a cooperative member also means having an organized and regulated structure that provides them with a disciplined and systematic work framework. The notion of creating opportunities by working in an organized manner and seeking to improve both their own economic situation and that of others are central aspects of the association that members have with the cooperative. Additionally, the oyster cooperative is highlighted as a gateway to professional and business growth, offering a format that, in many cases, significantly differs from the members' previous work experiences:

“We have always worked in cooperatives, but just as [regular] members. Now, however, I am the legal representative of the cooperative, so I am supposed to handle everything that is needed, like obtaining permits...” (**Female member**)

“And besides, it opens many doors that, if you're not part of [such] a cooperative, you can't manage or handle things like that — no projects, nothing... But by being part of a cooperative, you have more opportunities to seek improvements for yourself and for everyone who depends on you as well.” (**Female member**)

When asked to assess the value of the cooperative for themselves, their family, the community, and the environment, the idea of helping one's family stood out again, with the

cooperative being seen as a key tool for personal advancement and family progress. The cooperative is not seen merely as a source of income; it is considered a space where solidarity and camaraderie are essential, creating a supportive environment for achieving collective goals and expanding business opportunities. As one female member emphasized, "it's important that we all get along well so that we can accomplish things, the goals we set for ourselves, and keep fighting and keep searching for more."

It is worth noting that, at the beginning of the interviews, there was already talk of the possibility of starting their own cultivation cycle and independently selling their own product. This development represents a step towards greater control over the production process, as one member explained: "that would expand the work, because here we're delivering directly to the engineer who sends us the seed and doing it on our own would be already a different kind of work selling it independently." (**Female member**)

The participants attribute a pioneering character to the cooperative, as it is the first in the community to be led by women, describing empowerment and gender equality as essential foundations. In this sense, the cooperative is understood not only as a means of survival but also as a symbol of collective progress and social transformation, as one female member expressed, "it's something that many will realize, that as women we can indeed work." Additionally, the idea emerges of demonstrating to the community that the aquaculture model represented by the cooperative can generate viable economic opportunities.

In this context, the members also expressed awareness of the environmental benefits of their activities, with five respondents mentioning the oyster's role in purifying the water of Santa María Bay, improving its quality. As one female member noted, "for the fish in the sea and all the other animals." Others also highlighted how the cooperative actively participates in ecosystem conservation, avoiding practices such as tree felling and the introduction of invasive species that could disrupt the natural balance. Furthermore, they emphasized the importance of taking care of the island's environment through daily actions, such as proper waste disposal and collection, demonstrating that every gesture counts toward preserving the health of their surroundings.

Collectively, the members identified several ways in which they see the well-being of the cooperative as intrinsically linked to the well-being of the islet and bay, on which it operates. One member pointed out the transformation the project has inspired in them and the broader mission that the cooperative, along with SUCEDE's efforts, promotes in raising environmental awareness in La Reforma:

“...since we joined SUCEDE and formed the cooperative, we've changed the direction of our thinking. Now, you could say that if we have a bottle, we no longer just throw it away [into nature]. That's already helping the environment. Now we join up with other people, and we try to talk to them, to tell them to take care of the islands, to take care of the sea, not to

litter. If they're going to come to the islands, they should take their trash back with them because we need to keep our islands clean. It's something wonderful that we have here, and I believe it has really helped us reflect on the environment.” (Female member)

Individual and Collective Goals

The personal goal narratives of the cooperative members weave a pattern of apparent aspirations toward both collective and individual objectives. On one hand, they emphasize the desire to keep progressing in their work so that one day they can individually have “their own business.” On the other hand, and more prominently, they express the desire to build a legacy within the cooperative as a source of permanent employment that will benefit their families and future generations, including their children and grandchildren, while also diversifying their sources of income in the future. This perspective highlights the value of sustainability and knowledge transfer by “doing something that hasn’t been done here before.” Additionally, the ambition to expand and contribute financially toward acquiring more equipment reflects their desire for growth and the continuous development of the cooperative, which will be discussed in more detail in later sections of this report:

“My goal would be for us to succeed in staying here, in this job, so that it always remains work for us and that we can manage to move forward with the cooperative, whether it’s in ecotourism or in another species, like shrimp or clams, because those are things we can also do. But right now, we’re mainly focused on the oysters, making this project successful so we can thrive, rise up, and move forward to provide for our families.” (Female member)

Another recurring theme in the responses is a desire to preserve and deepen a practical connection with the sea, which the cooperative members have experienced as an intergenerational economic cornerstone and a source of pride and identity in their community. This bond is reflected in the desire to manage and oversee the entire oyster cultivation cycle, as expressed by one of the male interviewees:

“That’s the goal of every cooperative member, to complete the work, to reach the goal of getting it to be big. But right now, it’s like we’re raising a baby. It’s like you’re nurturing it, and you start to develop a fondness for it as well. For all of this.”

A male member emphasized the importance of prioritizing the women's goals. He stated that his personal objectives are aligned with those of the women, supporting the cooperative's original intention of female leadership. He said that “the goal is to get where they want to get,” despite the fact that the cooperative now has a significant number of male participants.

At the same time, it is evident that family approval, particularly from husbands, plays a significant role in allowing women to pursue their cooperative activities. One partner shared that her inclusion in the project was “a very big challenge” due to her husband's initial reluctance. Already retired and facing physical ailments, he preferred to rest and didn’t like the idea of his wife having to work alone on the island. He later decided to participate and became convinced of the project, supporting it unconditionally. While this attitude could be

seen as a well-intentioned gesture of collaboration, it also reveals a dynamic in the relationship with the men that could influence the development process, which is intended to be led by the women.

Integral Values

Members were also asked to evaluate the meaning of the terms **independence**, **commitment**, and **shared responsibility**. **Independence**, in the context of the cooperative, was highlighted as a deeply valued and essentially individualistic trait among the members.

“[Independence] is like being able to rely on yourself, not depending on anyone. It’s like you’re walking your own path, so to speak—it’s up to you to figure out how to get ahead, how to succeed in life, so to say, without anyone’s help.”
(**Female member**)

When discussing their goals and the meaning of being a cooperative member, they often spoke in terms of growing towards becoming autonomous as a collective one day. However, when asked directly about the notion of independence, everyone associated it with *becoming independent from the cooperative itself* — having the ability to replicate this model on their own, “independent from their fellow members,” as they noted that “each mind is its own world.”

This reflects an underlying tendency to view the cooperative as a tool for accumulating the knowledge and resources necessary to **manage their own individual business in the future, as a primary goal**, thus ensuring personal and family livelihood. In this context, the current setup of shared work is seen more as an essential temporary necessity rather than an end in itself or a permanent strength and opportunity:

Independence? Well, as you go along with what you’ve learned in the cooperative and with what we’re managing now given the resources we have, you start getting an idea of how you could become independent on your own. Then you’d need financial support and to find a stable area where the product can grow, so you can plant your own seed.” (**Male member**)

“Independence from... becoming independent from the cooperative. That’s what I’m trying to say. Look, becoming independent... even to be independent, there are many things you need to have. Because in a team, there are the ideas of three or four minds. To become independent, you need to have a good understanding of the work you’re doing. You need to know how to reproduce the process. And you need to have the equipment. That’s what it means to be independent. When someone leaves a cooperative or any other organization, like a factory or whatever, you need to have all of that to be independent. Which is something we don’t have. Everything, everything is done as a team.” (**Male member**)

Analyzing the nature of the responses, the researcher attempted to delve deeper into the meaning of autonomy *for the cooperative* specifically. However, the members showed difficulty in connecting this concept with the collective progress of the organization, repeatedly returning to the idea of family livelihood as the central focus.

“An independent cooperative... That is, if it were my own initiative, it would just be my husband and my children, with no one else involved, separate from others—just me and my family being independent.” (**Female member**)



“I think the independence of the cooperative would be if each one of us had our own little oyster farm. That each person had their seeds, took care of them, and sold them on their own. Each family here. That’s our livelihood, the livelihood of each family that’s here.”
(Female member)

When asked how he views the topic of the cooperative’s independence, given that they still rely on resources from Marine Edén, one member emphasized the difference between their current working relationships and his 45 years of working under an employer:

“In other words, here you work and work. If you don’t finish today, you finish tomorrow. But you don’t have to kill yourself to get the work done in one day because you don’t have a boss demanding from you. That’s what it means to be much more independent. You set your own pace. If you take your own pace and keep working, you know you’re working slowly, but you’re doing it right. (...) As for Marine Edén, or Rojo [Marine Edén’s director], he’s the boss. But you’re the one taking care of the oysters. You know the work you have to do. You already know the job you need to do to make sure the oysters are healthy. So, there’s no need to be pressured, no need for the boss to be on top of you, because you know your job. So, there’s no need. It’s almost like it’s your own.” (Male member)

In the end, only one of the female associates, after the researcher specifically rephrased the question, mentioned that the cooperative’s independence would mean that members take the initiative to find their own seed sources. The deep aspiration among the members to be “their own boss” and forge their own path apart from their fellow members one day is not only rooted in the lack of self-determination and economic hardships in their previous working conditions but also in the traditional value of being able to provide for the family through individual achievements.

At the same time, the need and priority to advance collective goals, maintaining solidarity and cohesion within the group, is frequently emphasized. Therefore, these individualistic visions are not necessarily incompatible with the project’s success. As the following quote demonstrates, even though their notion of independence is more family-oriented than group-oriented, there is evidence of a mindset that combines both individual and collective ambitions:

“Well, being independent is not relying on anyone but yourself. It’s about finding a way to succeed on your own. **But in this case here, we’re a team. We’re a team, and we have to succeed together. We have to push this forward.** But all along, since my childhood, I started working and being independent. At 16, I was already independent. (...) When I got married at 18, I had enough to build my house from the work I did at sea. Since then, I’ve been independent. My way of thinking has never been to rely on others; it’s been to succeed on my own. So I’ve always been independent, always finding a way to do well. And in this case, as I say, here we’re a team, we’re a team, and we have to succeed, we have to move forward together.” (Male member)

Commitment, in this context, is expressed by the participants as the willingness and determination to faithfully adhere to and fulfill “100%” of the goals and objectives agreed upon by the cooperative. This commitment is embodied in always “keeping an eye on the seed,” beginning with the symbolic act of signing the corresponding contract. Commitment

transcends the mere execution of tasks, representing a moral agreement that, from the members' perspective, permeates various aspects of cooperative work:

“Here, we have the commitment to keep watch, to make sure the seed doesn't die or that nothing gets stolen, to ensure nothing is missing. We've set up the floats, so they move with the tide, so they don't fall all the way to the bottom, and to keep pests from getting on them. We stay on top of things, so they don't drift to another rack or break some lines. It's about keeping an eye on your project, so it doesn't go under. And putting in the effort, money.”
(Male member)

A male member compared this work commitment to the personal commitment of marriage: “Even if you live apart, you in your house and she in hers (...) the commitment remains. You gave her the ring, and she already said yes, so it's a commitment—you have to keep giving her money, even if you're not living together.” In this context, the primary responsibility toward the director of Marine Edén, who provides them with seeds, tools, and his trust, was also emphasized. Thus, the commitment to Rojo should be “treated like a law,” and the members must “respond well to him,” not “defraud” or “let him down,” and “move this project forward.”

This also involves ensuring that the group remains united until each person can become independent with their own business, separate from the cooperative. Additionally, it was emphasized that the commitment to the cooperative extends to supporting the community, the sea, and the ecosystem, once again reflecting the strong integration of the project with SUCEDE's broader mission and efforts.

Finally, the notion of **shared responsibility** in the cooperative was understood in a very straightforward and consistent manner by the interviewees. Members associate this responsibility with the ability to individually fulfill assigned tasks responsibly, which reinforces trust within the collective. Each member fulfilling their responsibility ensures that complex tasks are handled effectively, such as seed replacement and the maintenance of racks and bags, ensuring everything functions properly.

Responsibility is not seen as an isolated commitment but as a burden distributed equitably among all members, ensuring that each person feels like an integral part of the team and is committed to both the challenges and successes of the group. Shared responsibility is thus not only perceived as a management strategy but as a deeply rooted value that drives cooperation within the cooperative.

Duties, Rights and Trust-Based Work Relations

Similar to their interpretation of commitment, a question regarding the **mutual duties and rights** between the cooperative and Marine Edén revealed that members articulated a sense of responsibility to manage the work entrusted to them by the director effectively, aware that “they wouldn't be working if it weren't for Marine Edén” (Male member). This includes

ensuring that the oysters are properly cared for in order to "get the highest percentage of oysters possible out of each seeding" (**Female member**), maintaining the equipment and facilities in good condition, and reporting any irregularities, such as lost bags or discrepancies in the seed count.

They feel that fulfilling these duties is essential not only for the operational success of the project but also for maintaining the trust and mutual support they have established with Marine Edén. As expressed by a male member, this is grounded in a sense of gratitude toward the director and an awareness of the potentially transformative impact the project could have on their lives and the lives of others:

“Our duty is to work with them seriously, to be responsible with their equipment, since all the equipment we have is provided by Marine Edén, so we have to be responsible (...) both in its care and handling. (...) We need to be very responsible and respectful with them as well, because they have really supported us, they've helped us a lot to succeed in this project. It's a life project for us and for those who come after us, for many people.”
(**Male member**)

On the other hand, members also perceive that they have specific rights in this relationship. Primarily, they expect Marine Edén to provide the necessary resources for them to perform their work effectively. This includes adequate equipment and solutions to any issues related to oyster seeding that may arise. Additionally, they expect that any financial or material support needed for their work will be provided. The members emphasize the importance of reciprocity in this relationship: while they commit to delivering quality results and responsibly managing the resources entrusted to them, they expect Marine Edén to fulfill its part by providing everything necessary to facilitate these tasks. This reciprocity is considered fundamental to strengthening the sense of commitment and belonging among the cooperative members, as previously described by them.

This reciprocity, along with shared responsibility and commitment in general, is based on the value of **trust**. When asked about its role, trust was highlighted as a central pillar that underpins all work-related interactions within the cooperative and personal relationships. Receiving someone's trust—whether from an acquaintance or a stranger—creates a moral **expectation of integrity and honesty** towards that person, which must not be betrayed in order to maintain that trust:

“The role of trust... Well, that, that's something you have to be grateful for, because, for example, here, regarding the engineer, he trusts us. He has trusted us from the beginning. And so, we have to reciprocate by doing the work well and everything. And here with the women [from SUCEDE], they, too, from the start, placed their trust in us, and we've made an effort to reciprocate in the same way, not to disappoint them. And in the community, I say the same thing: we have to be honest everywhere, everywhere—in the family, with the family, with the neighbors, with everyone. **If someone places their trust in you, you have to do them justice**. That's what I think.” (**Female member**)



Moreover, in an environment where valuable tools and seeds are handled and complex collective work is carried out, trust stands as the fundamental tool without which there would be no foundation for any meaningful and sustainable collaboration.

“Yes, trust is very important because we have a lot of things and materials here that could be taken. We need to have mutual trust with our colleagues and with everything we’re handling here.” (Male member)

“We have to trust each other and have trust in everyone else to achieve many things. Because if we don’t have trust, I believe we won’t get anywhere. We won’t stand out, we won’t achieve anything, and everything will stay the same or even be worse than before because we’ll just make a fool of ourselves. So, we have to trust both those who are supporting us and those of us who are working on the project. That’s my point of view on this.

And why is trust so important?

Because it’s essential for being well and staying united. We need to give that trust to many people we don’t know yet, and for them to trust us as well, so we can achieve many goals.” (Male member)

In this context, one of the male members highlights the power of trust through a personal anecdote about how informal agreements can take on a binding nature:

“When you have trust with people (...) you don’t need those papers. (...) I’ve done many things in my life involving commitments and money (...) and I’ve never needed a piece of paper. My word has been enough, because where there is trust, you don’t need paperwork. And here, well, there is trust with everyone, with the team. Here we all trust each other, we’ve all known each other since we were kids.

We’ve known each other for many years. But paperwork has to be done because it’s required, that’s how the work demands it. But I’m telling you about my responsibility (...) because a long time ago I bought a car and started building my house, all based on my word. I went to the wood and cement suppliers and just spoke to them. I didn’t sign a single piece of paper or anything. I built my entire house that way—six rooms—just with my word. I’d say, ‘I’ll pay you by that date,’ and that was it.”

This highlights how the interpersonal agreement based on mutual trust transcends the formal bureaucratic agreement required by the cooperative’s context:

“I get along very well with him [Rubén Rojo]. I mean, between him and me, there’s no problem—there’s trust. But these papers are required by the job, not by him. (...) This is because of the cooperative, but personally, we don’t need paperwork. I mean, I get along with him because I know him. Yes, I know him. And the work commitment requires these papers. I mean, there’s trust between us as people. But these are work-related matters, that’s something else. Don’t mix friendships with work. That’s it. That’s where this fits in.”

Aligned with established understanding of trust, members express that the greatest trust arises from a sense of certainty about the other person and their behavior. Thus, being entrusted with trust is perceived as a testament to one’s character and something that should be cherished:

“Well, having someone trust you is very nice. It speaks well of you as a person. If someone says to you, ‘I trust you,’ it’s because they know you, they know your way of being,



they know you're responsible, and they're going to give you the trust you deserve. And that's how I feel—I feel that people can trust me because I know I would respond to them in the right way.” (Female member)

“They believed in us, that we could do it, that we would keep moving forward, and that we wouldn't let them down. That was a trust they were placing in us. On one occasion, Arely (...) told me that Chita (...) was going to form the cooperative, and Arely told her to include me. I asked Arely, 'Why did you tell Chita to include me?' (...) She said, 'Because I knew you would be a leader, that you would accept and succeed.' I don't want to let her down. I don't want to say that I gave up halfway and didn't continue. I want to keep going. Besides, I like it here. I like the peace. I like all of this.” (Female member)

In summary, all members emphasized trust as a vital foundation, as the effective management and growth of the project depend on each person fulfilling their responsibilities and duty of care without the need for constant supervision. They also highlighted that trust is essential for entering into a (temporary) mutual dependency between teammates and Marine Edén's management, which is crucial for achieving collective milestones.

Ultimately, according to them, without trust, there is no reciprocity, commitment, or shared responsibility, and therefore, no cooperative. At the same time, when speaking about other people in the community, there is a noticeable sense of distrust, associated with observations of envy and perceived ill intentions towards the cooperative. This topic will be explored further in Section VI.

V. Operational Learning and Technical Skills

“...someday when they talked about the cooperative, I said I want to be a part of it because I want to know the process of oysters and to be able to see it, because I had no idea what it was. An oyster. I always saw them already grown, ready to eat.” (Female member)

“The learning I've had here has been very good. I've learned how to handle the size of the seed as it grows, how many days it needs maintenance, and how many weeks it should stay before moving it from one bag to a larger one.” (Male member)

When asked about what they have learned in technical terms during their work in the cooperative, members indicated that they have acquired significant knowledge and skills in a short period of time. They emphasized that they started from scratch, learning how to handle oysters—from how to plant and transfer the seed to managing the necessary equipment such as bags, cylinders, and racks. A key aspect of their technical learning has been the ability to adapt to the challenges posed by oyster mortality, learning to perform daily movements, cleaning, and maintenance, and adjusting to the sea's current system to reduce mortality and promote healthy growth.

Members have also discovered which method, in their view, works best; for example, they have observed that placing the oyster seeds in bags results in faster growth compared to leaving them in cylinders, where progress tends to be slower. Overall, in their self-assessment

of handling technical tools, the cooperative members have reported steady progress as they continuously practice, as one male member aptly noted: “You know, the world wasn’t built in a day, and we’re getting there little by little.”

When members were asked about which aspects of their work should be *innovated* in the future, most responses pointed to procedures they have already learned and wish to or are currently implementing. For example, someone described how the technicians instructed them to keep the oysters in submerged structures known as “beds,” consisting of metal racks. The goal was to ensure that the oysters remained level in the water and in constant movement by suspending them with ropes attached to buoys, which would facilitate uniform growth and prevent them from staying too long on the surface. Based on this instruction, they have been observing and learning to adjust their method to optimize the development of the oysters in the submerged beds.

They also highlighted a visit to a farm in San Quintín, where they were shown how to place a smaller bag inside a larger one to cultivate oysters in colder waters—a technique they have learned but have not yet implemented as of the interview date, since the water temperature in the bay is warmer.

In the “*human*” aspect of their learning, members link their cooperative experience to their and their families’ participation in the “Schools of Forgiveness and Reconciliation” (ESPERE) workshops. The frequent mention of these workshops reflects an apparent synergy between the different SUCEDE interventions in the community and the overarching goals of promoting individual, social, and environmental healing. Members reported learning, for example, valuable lessons about interpersonal interactions and conflict resolution, which are essential for maintaining a harmonious work environment.

One member highlighted the importance of being “approachable,” explaining how he learned to handle situations where a buyer acts dismissively. Instead of getting angry, he opts to stay calm and handle the situation diplomatically or walk away, a skill he says he acquired in the workshop. This learning has helped him not only in business interactions but also in mediating disputes, promoting a calmer and more thoughtful approach.

Moreover, in terms of “human” learning, members emphasized how the cooperative has fostered a sense of community and camaraderie among them, something they noted has deepened through daily interactions and teamwork. Although some members did not know each other well at the beginning, they now consider themselves a “family,” offering mutual support in various aspects of life, both within and outside the cooperative.

They expressed how the “human” side of their experience is also reflected in how they approach challenges, solving problems collectively. For them, the cooperative goes beyond

being just a workplace, becoming a space for personal growth, with the shift from village life to a natural environment helping to strengthen group bonds. They also shared an initial reflection on the role and contribution the cooperative could offer to the broader community of La Reforma in the future:

“Thank God, there haven’t been any conflicts, and we’re supporting each other a lot. If someone has a problem, it needs to be solved, no matter what it is. This is part of our humanitarian side, helping each other to get along, to establish ourselves and be like family. You could say we’re no longer just friends, we’re like family, almost in the humanitarian sense, on a personal and community level (...). Well, we’ll see how people react, because we’re just getting started. How will people take it? And how are we going to contribute? What are we going to do if things go well for us? **We need to support the community and everyone who comes after us.**” (Male member)

VI. Necessities, Challenges and Risk Management

Knowledge Expansion

Although most members reported that the management of technical tools and the competence of their team are going well, given that they are just starting the process, they highlighted some learning areas that could be beneficial. One key knowledge gap mentioned was seed-counting techniques. Additionally, they noted that cooperation and communication within the group need improvement; it is essential to be more coordinated and communicative to ensure that tasks are carried out efficiently when exchanging equipment on the island.

Often, a lack of communication leads to mistakes that could be avoided with better organization and clarity regarding shared responsibilities among members. Another aspect raised was that the level of enthusiasm, given the uncertainty and difficulty of the work, is not uniform among all team members, which can impact the workflow. It was noted that some members are more motivated than others, anticipating the rewards of their efforts, as they perceive "more of what’s coming than others who still can’t see it yet" (Female member).

They also identified the need to continue learning and adopt techniques specifically tailored to local maritime conditions to ensure optimal growth and reduce oyster mortality. This includes knowing how to manage water temperature and having a thermometer (which is on the other side of the island, but they haven't been able to retrieve it), especially during periods of intense heat that can be deadly for the seed beds. They also need to gain knowledge about water movement and how to properly position the cultivation bags in the sea.

In this context, two members expressed interest in learning more from other farms, particularly from a man who has a similar operation elsewhere and who has apparently invited the group to visit his site and share knowledge. Additionally, there was curiosity about becoming more involved in the delivery process, understanding "the lines of work, how they

will be moved from one place to another, and which ones are ready for export.”
(Male member)

When asked what they would like to learn to “move forward,” members primarily referred to activities and skills that could expand the cooperative’s operational model, rather than aspects related to their current activity. As hinted at in earlier sections of this report, there is a particular desire to someday know how to manage the entire lifecycle—from seed to mature oyster—have a processing plant for the final product, and handle all logistics related to sales. They highlighted the desire to have a specific section for seed and larger racks to experiment with the complete growth of the product until its final stage. In this context, they also expressed uncertainty about whether there would be a local market to sell oysters in this scenario.

Additionally, they showed interest in exploring other aquaculture possibilities, such as scallop and clam farming. Two members mentioned that they would like to share their knowledge, once it is more developed, with family members to provide them with supplemental income or to help others support the cooperative. While members report ambitions to expand the scope of the project, their primary focus remains on improving management in its current form and scaling up the project after successful continued implementation:

“...the brain has an endless capacity to learn. Everything you can learn is never enough. You see, you learn something new every day. That’s just how it is.” (Male member)

“...Especially as time goes by, we’re learning more and more, but the thing is, we don’t have the resources to say, ‘Let’s set all this up, let’s buy seed right now,’ because we’re just starting out.” (Female member)

Equipment Necessities

Nevertheless, the most concrete need highlighted relates to the cultivation equipment. The cooperative has recognized the necessity of replacing plastic cylinders with racks and bags, as the former, based on their experience, have caused many issues with parasites such as worms, crabs, and mussel larvae, making them unsuitable due to the high mortality rate of the seed. In their efforts to improve this situation, they are open to learning and applying new techniques that will help them overcome this challenge. One member illustrates the issue with parasites in the cylinders as follows:

“There are many here in the sea, and there’s a shell we call ‘broca’ that attaches itself anywhere. It’s like a little cap. It causes things to get dirty and clogged, so we have to spend a lot of time brushing, knocking them off, and scraping. This makes us lose a lot of time on other tasks and delays us in keeping everything in order. That’s why that material didn’t work for us. So, we’re looking for a solution, and we’re opting to remove it, discard it, and use something else that has proven effective here in the bay, in this area.” (Male member)

It's worth mentioning that the “plague” that damages the “solvent” also infiltrates other tools and poses a problem for overall productivity. One of the members again compares caring for the seed, which can die without proper attention before reaching a marketable size, to raising a child:

“If I'm going to get married... it's a challenge to have a child or not. It's a challenge because you don't know how it's going to go. Whether you'll be able to succeed and raise them well—it's a challenge. Because many don't succeed, even if they have the means. That's why it's a challenge... to get the oyster to reach its goal.” (Male member)

Additionally, members expressed that in order to efficiently process the quantity of seed provided in the field, more racks and bags are required, since “if you don't have them at the right time, everything gets delayed, the cultivation gets delayed. So, it's essential to have everything on hand” (Male member). One of the women described how their technical capacity had lagged behind in relation to the workload in the past:

“More tools, because it's very important. That's the most important thing—to have everything you need. At the beginning, we started with very little and soon realized that what we had wasn't enough, it didn't meet our needs. We had to ask for more, and they kept bringing us more and more (...) as they brought us tools, they also brought us more seed, and it was like, ‘we need more,’ and we felt like we might be annoying them, but no. It was necessary to have everything, everything we needed, because if everything is well organized in the sea, we know the outcome will be better (...) having the racks, having the necessary bags we need. We know that's what's really important for the seeding... having the area well organized, because we know that's where everything will turn out well.”

The members emphasized that they would like to acquire these additional tools with the cooperative's own funds in the future, rather than depending on Marine Edén's property. They also mentioned that it would be beneficial to have larger racks to provide more space for the seeds during their growth, preventing them from being too cramped. This would improve water circulation among them, facilitating respiration and potentially accelerating their development. Additionally, the need to acquire more buoys to properly level the seed in the work area was suggested.

One of the partners also highlighted the need for a motorized panga (boat) dedicated exclusively to the cooperative, to be kept permanently at the site, especially useful during the winter for moving and cleaning equipment directly from the boat without having to enter the water. Moreover, the current configuration of the panga they have been using is not suitable for this type of activity, which has resulted in two members getting injured during the cleaning process.

Having a motorized panga and the necessary training to operate it would also be essential for fostering a sense of independence, control, and ownership of the project among the women in the cooperative. Currently, they depend on the men, who are often involved in other activities, for transportation and access to the islet. This dependence makes it challenging to

develop a women-led business as originally envisioned, which is another risk related to the gender component:

"What we need here, what we're lacking here, are boats. For example, as a cooperative, having our own equipment so that we can move around and then learn ourselves, the women, to operate our own equipment and handle an engine. That would help us a lot because the men, well, they have their own work, they go out to catch shrimp and crab... we need that equipment and we need to learn how to operate it ourselves."
(Female member)

Bureaucratic, Human, and Environmental Challenges

Another concrete need highlighted is the importance of obtaining the necessary permits to formally use a segment of land on the island and to build permanent accommodations for work periods, as current environmental regulations restrict modifications in that protected area. A member mentioned that they need someone to support them in securing this permit.

Previously, they were instructed to dismantle the temporary shelters they had built, so they always have to return each day before nightfall, which is extremely costly and impractical for managing the business. With their current permit, they can only keep things in the water, not on land. As a result, they opted to move to another nearby island where, despite being a protected area, the presence of more fishers makes it more feasible to settle — however, they also had to remove their camp there shortly after these interviews took place.

In general, the members perceive a reluctance from the authorities to acknowledge and support the cooperative's activities as a significant risk, fearing that “they’ll come and give us trouble.” There is a general distrust of the government and a deep-rooted fear of being dispossessed of what belongs to them, based on previous experiences with corruption in the public sphere and the perception that envy leads to hostility from others.

“It's like we have this here, and other people want to have it too. That's the problem—they want to push you aside. I mean, we've been through a lot; not everyone wants this, but they don't know what we've suffered, and they'll take it away from you. That's what happens, that's the risk.” (Male member)

It seems that the members perceive the previous eviction process from the islet, due to the lack of land permits, as a reflection of this phenomenon, which causes great frustration:

“People have always come here to the islands, and supposedly there was never a problem. But now that we came, there were issues because they came and (...) they weren't checking if we had water permits, they came to see if we had land permits.”
(Female member)

“For example, right now we moved because we went to another spot, but according to the CONAM [National Environmental Council] it's not allowed. But we've been coming here to work with shrimp for many years, spending up to six months on the island, and no one had ever come before. What a coincidence that they came straight to us.

And why do you think that is?

Well, who knows why they reported us. But what harm are we causing? For example, you were here — what did you see that might affect them? What did you see? That there’s a mess? No, we have everything clean right now. We have this here because we’re working. We had it in the boat, but we need the boat to move things for the seeding, you know.”

(Female member)

Caring for the plants and animals on the islet diligently, as required by its status as a protected area, and being in the process of obtaining (still “struggling for”) a housing permit (still pending as of April 2024) provides them with a sense of some security, although there remains an underlying concern of being arbitrarily harassed by the authorities. This deep distrust also extends to the entire community of La Reforma and is seen as a widespread challenge, which they associate with the issues they face with the authorities:

“Well... unfortunately, sometimes the community itself doesn’t want to see you grow, improve, or succeed. Sadly, that’s how it is, and it’s a challenge we have to overcome. Why? (...). Because they’re not good people. If they were, they would do what’s best for others.”

(Female member)

“...But when it comes to trust regarding society or the community, no. No, because, as you know, whenever someone is trying to do something... people in the villages can’t stand to see someone succeed, and they start causing trouble, as they say, ‘bad vibes.’ Like what happened to us when they came and inspected us, because they let everyone else stay on the islands. That’s what we think.”

(Female member)

When asked about the trust he has in the community, a male member described how he feels that his own circles of friends, influenced by envy, try to discourage him from continuing this path with the cooperative, though it does not affect his commitment with the women. However, he also mentioned that there are those who encourage him to continue, highlighting the duality of support and opposition within his social environment:

“No, not from the community; it’s all just managing things. People talk to me about this, some say it’s useless, some say no, some say yes, and they tell me not to give up—there are many different opinions from my friends. But I say, I’m moving forward with the women.

And what are your friends saying?

They say no, that I should leave this behind. (...) They’re going backwards. I don’t know, but I tell them no. There’s everything here, and I won’t quit until the women quit, until the women say they’re not going anymore. It’s like, how can I explain it, I don’t know what envy means to you. Envy is when someone has more than I do. That’s it. And that’s what the community does. That’s what this town has — there’s a lot of envy.”

Aparte In addition to all the challenges mentioned so far, the cooperative members also face risks associated with working in adverse environmental conditions. They describe various

weather-related hazards, especially hurricanes, which can cause significant damage to their infrastructure and equipment, leading to product loss. They also recount dangerous encounters with marine wildlife, such as sharks, during equipment cleaning activities at sea, and the frequent presence of venomous animals like rattlesnakes and large centipedes in their work and rest areas, adding an extra layer of risk to their daily operations.

As a human risk, they mention the possibility of confrontations with criminals, which is particularly high in isolated areas at night. One member highlighted a past incident where “thugs” robbed and killed a worker on one of the islands, emphasizing the danger of theft of valuable equipment such as motors and boats, or because criminals believe there are large oysters to steal.

Another described challenge is related to seasonal limitations in oyster farming, as during the cold winter months, oysters do not produce seeds, posing a significant problem for continuous production. One member expressed concern that if the current seed reserves run out before the breeding season resumes in June or July, the cooperative would face a period of forced inactivity.

As of the writing of this report in April 2024, issues with bacteria affecting the oysters due to changes in water temperature are further delaying the arrival of new seed stock. This situation forces the cooperative to focus on other activities, such as equipment maintenance and ongoing training, in the meantime.

VII. Future Perspectives

When asked where they see the cooperative in the short, medium, and long term, they emphasized the primary challenge of consolidating and institutionalizing their current work with oysters in the face of ongoing challenges, before sharing a vision for the cooperative that goes beyond oyster farming. In the short term, they want to continue their sustained efforts (“become stronger and move forward”), increase profits, acquire their own equipment and permanent housing on the islet, expand the work area with more materials and seeds in the water, and ultimately learn how to cultivate oysters completely.

Particularly, the women reiterated their aspiration for greater autonomy in their work by learning how to operate a panga. They feel that this is a skill they have never acquired, despite their lifelong proximity to maritime activities, but one that would give them a sense of ownership over their work:

“...Having our own equipment, so we can be out there on the sea, like the men, with the motor in hand. Going back and forth on our own, being able to succeed without needing a man to take you to and from the island (...) Because imagine the experience the men have; usually, they start when they’re little in the sea, while some women start working with their

husbands, or in my case, I used to go to the sea with my dad, but only every now and then, and that was it.

The men who are with us now, for example, the young guy who's with us doesn't study anymore and is now fully dedicated to the sea, gaining a lot of experience because it's constant work on the water. And if we stay as a cooperative, it would also mean consistent work on the sea for us. We'd learn more, and I can imagine myself one day, handling the motor just like the men and casting the nets too.” (**Female member**)

In the medium and long term, beyond expressing the desire for each family to have their own oyster farm, the members envision a shared work model that expands toward more ambitious and structural goals. One member spoke about the prospect of training workers (“teaching them as we were taught”), not only to employ them but also to help them eventually start their own cooperatives and businesses. They hope that the transfer of knowledge among members will increase the number of people working in the sector, thereby strengthening collective power and interests in relation to the authorities and the social environment of La Reforma. “Because the more groups there are, the more power we have with the government, it's more leverage. (...) The more people we are, the less they will ignore us” (**Male member**).

Aware of the potential environmental benefits of this economic model, the members hope to inspire more people to follow in their footsteps. In contrast to the perceived envy from the community, they do not see their project as a zero-sum game, but rather as an opportunity for the common good:

“I see that in the future there will be many more oyster cooperatives because people will see what we have achieved, and there will be more. They will look for ways to form their own oyster cooperatives because this will work out. This is going to be something good for everyone. Yes, and we are making it happen. We're getting there, little by little.”

(**Female member**)

Beyond collective aquaculture, two members of the cooperative envision a future where their workplace on the islet could become an attractive tourist destination. They imagine, within ten years, developing infrastructure such as lodging facilities, seafood and oyster restaurants, and boat docking areas. They hope this setting would offer visitors the chance to enjoy the area's natural beauty and learn about oyster cultivation and the cooperative's work practices.

Nevertheless, their immediate focus remains on consolidating this promising livelihood, which they believe enhances their personal independence and economic security compared to their previous work at sea. While acknowledging that this activity is not easy, they emphasize its apparent advantages over their past experiences, which motivates them to persevere:

“...having work allows you to move forward, no matter what. Of course, there are setbacks, and sometimes you stumble, but you have to get back up and keep fighting because there's no other option but to push forward and secure a better future. We've always been fishers because we live off the sea, but the sea is unpredictable — sometimes it gives,

sometimes it doesn't, and it's just constant struggle. That's why I've put so much effort into this oyster project, because we need something out there in the sea — nothing is guaranteed.

Whether it's shrimp fishing, crab fishing, nothing is certain. Sometimes you work hard and catch nothing, you don't earn anything—not even enough to take home or buy food, nothing. Here, you work hard, there's a lot of work, but you know that there will be some profit. Out there, it's uncertain — maybe yes, maybe no.” (Female member)

They trust in what they consider an initial success, with rapid learning in a short period, as well as in the camaraderie within the group, which they describe as deeply rooted and something they hope to strengthen in the coming years:

“At the pace we are progressing right now, I see a lot of improvement—I see a lot of progress in the technical aspect, in camaraderie, where we all believe, I think, and I trust that within a short period, let's say two or three years, this will be a very successful enterprise. I have a lot of confidence in that. I believe it will have high production, be very productive, well-managed, and have good relationships — human, professional, all kinds. That's essential to thrive and to help anyone in need.” (Male member)

In this context, the women emphasized once again that a significant achievement of the project is being, despite the involvement of their male relatives, the first cooperative led by women. They view this, along with their demonstration of independence, as an essential legacy of the project:

“We have accomplished a lot in such a short time. We have become a group of women who have been able to move forward. That is a huge achievement because it's the first women's cooperative that was established.”

“No, well, we want to achieve something big here, something that hasn't been done in La Reforma. Right now, we're starting as an all-women cooperative, and we hope to achieve great things—that's our expectation, because that's what we want: to no longer depend on anyone. We used to rely on the cooperatives, but not anymore. Now we want to be independent and see, God willing, how far we can go.”

VIII. Conclusion and Recommendations

This exploratory study of the "Leonor Cuadras" Oyster Cooperative, sponsored by Marine Edén SA de CV and supported by the NGO SUCEDE, has highlighted the impact that the management of the project during its initial months has had on the members' confidence in this collective effort and their ambitions for future expansion.

Respondents reported a strong sense of commitment and responsibility toward those who initiated the project and the shared goals with their peers, dedicating themselves diligently to their work. They view the cooperative as an opportunity to strengthen their economic independence and as a means for social and gender empowerment. Additionally, they describe this project as allowing them to cultivate a new relationship with the sea, which they consider a significant source of pride.

The members also recognize the transformative nature of this economic model and its potential to be replicated by others in the community, which could enhance the social and environmental well-being of La Reforma. The sense of belonging and enthusiasm expressed by the interviewees is linked to their personal histories of labor dependency and economic uncertainty, as well as their trust in the representatives of SUCEDE and the director of Marine Edén.

Operationally, members have demonstrated adaptability and a growing set of technical skills essential for oyster aquaculture management, along with an interest in expanding their knowledge. Despite the administrative, social, and environmental challenges they have described, the members affirmed a focus on innovation and continuous improvement, which gives them confidence in the stable growth and future expansion of the cooperative.

This exploratory study thus provides insight into how a cooperative project of this nature functions in its early stages, which could facilitate the development of similar projects in the future. It demonstrates how oyster cooperatives could serve as a scalable model for sustainable aquaculture, offering livelihood opportunities in La Reforma and other communities within Angostura and the broader Sea of Cortez region.

As observed, a major challenge for expansion will be the economic sustainability of the model, finding buyers for the oysters, or, in the case of selling larger oysters, distributing the product in a sufficiently broad market. Additionally, there may be difficulties in securing enough seed for a larger number of cooperatives, as Marine Edén cannot act as an intermediary for everyone, especially considering that obtaining oyster seed is complicated and requires extensive networks and constant mobility.

The main challenges faced by cooperative members, such as the risks of pests and other environmental threats, as well as difficulties in managing materials, obtaining long-term land permits, and perceptions of envy from others, are not uncommon for this type of work in their environment.

More notable have been the dynamics related to interpreting the cooperative's purpose: originally, the cooperative was formed with the intention of establishing a model of shared leadership that highlighted the capability and autonomy of women in a traditionally male-dominated sector. However, the current dynamics reveal that maintaining this female leadership is not guaranteed. The inclusion of male members, driven by operational needs and family support, will continue to influence the project's trajectory and future development. In the sociocultural context of La Reforma, differentiating women's affairs from the rest of the family is complex, inevitably affecting their prerogative to lead the management.

Although current cooperation has been evaluated as strong, with members working together toward common goals, there is a widespread desire among them to eventually manage their own businesses independently. Members see the cooperative not only as a means to a communal end but also as a platform to develop skills and accumulate resources that could eventually enable them to establish and manage their own operations.

This process began after the end of the cultivation season, with five hectares authorized for use, one of which was allocated to the cooperative, while the rest was divided among the families. Additionally, families acquired their own equipment with the earnings obtained from the cooperative, allowing coexistence between cooperative and family cultivation activities. This demonstrates that both aspects can be conscious objectives of the project, but their priorities must be coordinated to ensure that a culture of work and collective progress is maintained.

Given the rapid changes the cooperative has experienced since the interviews for this report were conducted, the following recommendations are designed to guide and be applicable to future iterations of similar projects. These recommendations aim to ease operations, encourage institutionalization, and promote a business model with a clear sense of purpose, based on the comprehensive analysis of an oyster cooperative in its early stages, as presented in this study.

Operational Recommendations

1. Ensure Seed Delivery Aligned with Current Capacity: Ensure that seed deliveries correspond to the cooperative's current capacity, considering the availability of racks and cultivation bags. This requires ongoing and detailed assessments of equipment and materials for each cultivation cycle to avoid operational delays and optimize efficiency. The cooperative should receive regular technical guidance to adjust seed and equipment provisions based on actual needs, ensuring that oyster growth and development are not compromised by resource shortages. This will facilitate better organization and planning of cultivation space, allowing cooperative members to maximize harvest yields and prevent seed loss during the process.

2. Adjust Material Provision and Handling Capacity: Replace plastic cylinders with bags and racks as a standard practice in the cooperative to mitigate parasite-related issues and improve seed survival rates (the suitability of cylinders may vary by context). This transition should be accompanied by training on how to properly level the beds in the water, ensuring that all members of future cooperatives master this technique from the start. Additionally, providing sufficient buoys to position the equipment correctly will optimize the growing environment for oysters.

This approach will not only prevent parasite buildup but also facilitate the management and maintenance of the cultivation site, reducing the time and effort required for cleaning and upkeep. Implementing standardized methods for counting oyster seeds at the beginning of each cultivation cycle will ensure more effective distribution and allocation of resources, helping to anticipate and plan material and equipment needs for each stage of the cultivation process.

3. Establish Work Plans for Inactive Seeding Periods: Develop clear and detailed action plans for periods when no new oyster seeds are available, such as at the end of the season or during special circumstances like bacterial outbreaks that prevent new seeds from being produced. These plans could include alternative aquaculture production, training modules, and intensive maintenance activities. This will not only enhance business security and planning but also make optimal use of time, keeping members active and engaged during low-production periods.

Structural Recommendations

4. Conduct a Baseline Study: Implement a baseline study that builds on the qualitative findings of this exploratory report to measure the medium- and long-term impact of the cooperative's work. An evaluative baseline study that operationalizes selected management factors and key internal dynamics is essential to establish a starting point and collect initial data, serving as a reference for measuring future progress and impacts of this project and its potential replications with other participants. This study would not only validate the importance of the initial exploratory phase but also provide a framework with indicators to evaluate specific progress and outcomes.

Categories that could be included in the baseline evaluation are **the development of the cooperative's and members' self-efficacy, the level of knowledge about different oyster farming practices, and the group's cooperation and shared commitment dynamics.** This approach will allow for the establishment of clear and measurable indicators to guide future interventions and adjustments in the operating model, ensuring continuous development that benefits the cooperative's functionality. Additionally, understanding the initial context and starting conditions will help identify strengths and weaknesses, improving project design and implementation. A well-structured baseline study is essential for effective planning, accurate outcome measurement, and the long-term sustainability of the cooperative.

5. Define a Clear Path for Cooperative and Personal-Family Goals: From the cooperative's inception to the point where each member can manage their own plot and beyond, it is crucial to establish a well-structured plan for transition to independence. It is

essential to develop an operational document detailing transition phases, the specific use of funds for independence, and responsibilities assigned at the group and individual/family levels. This plan should include clear criteria for members’ progression toward independence, ensuring that each step aligns with the cooperative’s overall sustainability and economic success. This measure will help align expectations and establish clear paths of responsibility, while maintaining the commitment to collective efforts, regardless of personal economic sustenance.

6. Provide Boat Handling Training for Female Cooperative Members: Implement training programs for operating motorized pangas for the women in the cooperative, providing both the necessary equipment and appropriate instruction. This skill, in addition to fostering greater autonomy and ownership of their work activities, will enable women to participate more actively and safely in all maritime operations. Equipping women with the skills needed to operate boats reduces dependence on male support for critical tasks, which is essential not only for the current cooperative but also for future cooperative projects that may not explicitly focus on female leadership. This ensures that male involvement in operational management, while typical, is not a necessary condition, thus supporting the empowerment and independence of women within the aquaculture sector.

7. Implement a Visibility Campaign for the Cooperative: Possibly during the ESPERE workshops or other SUCEDDE activities, launch a visibility campaign to improve public perception of the project and promote a better understanding of its environmental and social benefits. This initiative should include outreach activities and presentations by cooperative members in the La Reforma community and neighboring towns. The cooperative could organize open days, on-site demonstrations, and educational workshops on sustainable aquaculture and marine ecosystem conservation. This would not only reduce envy or skepticism toward the project from community members but also generate interest in joining future iterations of similar initiatives.

This visibility campaign should be designed to highlight how the cooperative contributes positively to the local environment and how its operations promote a model of sustainable and equitable economic development for all involved. Additionally, linking these community engagement activities with the ESPERE workshops could amplify the project’s educational and social impact. Members could demonstrate how the workshops complement and enrich their work in the cooperative, showcasing how the skills learned in ESPERE, such as conflict resolution and fostering commitment, have been beneficial in their daily work. This integrated approach could strengthen synergies between interventions and enhance individual, social, and environmental improvement in La Reforma, promoting the overall well-being of the community through a more coordinated and effective educational and operational strategy.

8. Create Regular Mechanisms for Experience Exchange and Knowledge Transfer Among Existing and New Cooperatives in Angostura: This platform would cultivate the exchange of best practices and facilitate the integration of new community members into the oyster aquaculture field. The initiative could include periodic meetings, collaborative workshops, and a mentoring system where more experienced members of the "Leonor Cuadras" cooperative and other similar cooperatives can provide guidance and support to new cooperatives.

Additionally, access to online educational resources such as tutorials on oyster farming techniques, resource management, and solutions to common issues in this activity (produced with cooperative members or other stakeholders like Marine Edén/Santa María Seafood Farm) could be provided. Promoting a collaborative learning and mutual support environment will not only strengthen the individual and collective capacities of the cooperatives but also foster a culture of continuous innovation and adaptability to the sector's challenges. This strategy would ensure that valuable knowledge and experiences are not lost but shared widely, improving the sustainability and impact of these cooperative initiatives.

9. Establish a Rigorous Selection Process for Founding Members of Future Cooperatives: Focus on assessing and ensuring mutual trust, team spirit, and a strong commitment to shared responsibility. This process should include group interviews and self-assessment surveys that reveal how potential members interpret the project's core values. It would also be prudent to consider community references and work history that reflect candidates' integrity and work ethic.

The importance of this process lies in preventing member loss due to a lack of individual commitment, misuse of resources, and ensuring that no member prematurely uses cooperative assets to start their own venture, which could compromise the viability and goals of the collective project. Additionally, fostering an environment of transparency and openness from the beginning can strengthen cohesion and operational effectiveness in future cooperatives in La Reforma and other communities in Angostura and the Sea of Cortez region.

10. Develop a Shared Mechanism, Facilitated by Marine Edén, to Help Future Oyster Cooperatives Establish and Maintain Strong Relationships with Multiple Seed Suppliers and Buyers: This approach will promote cooperation and coordination among cooperatives, enhancing their autonomy, effective management of this essential resource, and consistent product demand. Additionally, it would be beneficial to provide training to cooperative members in supply chain management and negotiation skills.

This will not only significantly improve their interactions with seed suppliers but also optimize their procurement strategies, equipping them with the tools needed to effectively negotiate

and manage critical resources. Moreover, establishing connections with more representatives from the private sector could offer new market opportunities and strengthen the cooperatives' financial capacities, promoting their long-term development.



Annex I: List of Interviewees

ID	Function	Name	Gender	Date	Duration
001	Director of Marine Edén	Rubén Rojo	M	29/11/2023	38'05"
002	Legal Representative	Magda Guadalupe Cuadras (Chita)	F	12/12/2023	20'14"
003	Associate	Carmen Alicia Camacho Camacho	F	12/12/2023	33'26"
004	Associate	Maria Evelia Saucedo Sánchez	F	12/12/2023	23'29"
005	Associate	Teresita De Jesús Camacho Camacho	F	12/12/2023	27'28"
006	Auxiliary Member	Juan Carlos Aguilar Aguilar	M	12/12/2023	20'06"
007	Auxiliary Member	Bernardo Rubio	M	12/12/2023	23'31"
008	Auxiliary Member	José Humberto López Nieto	M	12/12/2023	20'13"
009	Auxiliary Member	Pablo Parra Tribe	M	12/12/2023	43'42"



Annex II: Images



Data collection process with cooperative members and the SUCEDe team.

Research.Reintegrate.Rebuild.



Work Environment on the Espiritu Islet,
Bahia de Santa Maria, La Reforma

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